

Express Mail Label No.: EL954754882US  
Date of Deposit: November 18, 2002

#28

ATTORNEY'S DOCKET NO: E00295.70021.US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Wilson et al.  
Serial No: 08/935,844  
Filed: September 23, 1997  
For: METHOD AND APPARATUS FOR IMPLEMENTING A REMOTE  
MIRRORING DATA FACILITY  
Confirmation No.: 9098  
Examiner: K. McLean  
Art Unit: 2187

Commissioner for Patents  
Washington, D.C. 20231

**Attn: Board of Patent Appeals and Interferences**

Sir:

REPLY BRIEF PURSUANT TO 37 C.F.R. §1.193

Richard F. Giunta  
Reg. No. 36,149  
Wolf, Greenfield & Sacks, P.C.  
600 Atlantic Avenue  
Boston, MA 02210  
(617) 720-3500

Attorneys for Appellants

**TABLE OF CONTENTS**

I.	Introduction.....	3
II.	The Answer Mischaracterizes Appellants' Argument Concerning The Nature Of The System That One Skilled In The Art Would Have Been Led To Following The Teachings Of Zarrow and Yanai.....	4
III.	One Of Ordinary Skill In The Art Following The Teachings Of Zarrow and Yanai Would Have Been Led To A System Employing A Dedicated High Speed Point-To-Point Communication Link Between The Storage Systems As Explained In Appellants' Brief, And The Examiner's Purported Justification For Arguing To The Contrary Ignores Teachings Of Zarrow, Yanai and Ohran.....	5
A.	Zarrow.....	5
B.	Yanai.....	6
C.	U.S. Patent No. 5,835,953 (Ohran) .....	7
D.	The Examiner Has Improperly Picked Only Selected Teachings Of Zarrow That Purportedly Support The Rejection, While Ignoring Other Teachings That Teach Away From The Configuration That The Examiner Alleges One Of Skill In The Art Would Have Been Led To Following The Combined Teachings of Zarrow And Yanai.....	7
E.	The Examiner Has Picked Only Selected Teachings From Yanai That Purportedly Support The Rejection While Ignoring Disclosure In Yanai (And Ohran) That Teaches Away From The Claimed Invention.....	9
IV.	The Answer Ignores Evidence of Record Demonstrating Additional Factors That Teach Away From The Present Invention, While Conversely Relying Upon Numerous Unsupported Assertions About What One Of Ordinary Skill In The Art Would Have Believed.....	14
A.	The Answer Disregards The Teaching In Ohran That A Remote Mirroring Facility Such As That Shown In Yanai Requires A Dedicated Communication Link.....	14

B.	The Evidence of Record Establishes That One Of Ordinary Skill In The Art Would Not Have Been Led To Directly Attach A Storage System To A Network Based Upon The Teachings Of Zarrow, Yanai Or Otherwise.....	15
V.	The Rejection is Based Upon The Wrong Legal Standard And Employs Hindsight In The Absence of Any Motivation In The Art.....	17
VI.	The Rejection Of The Claims Under Issue 3 Demonstrates The Further Use Of Hindsight, As There Is Absolutely No Motivation In The Prior Art Of Record For Making The Combination.....	17
VII.	The Rejection Of The Claims Under Issue 6 Demonstrates Yet Another Example Of The Examiner Improperly Ignoring Relevant Teachings Of The References In Reconstructing Appellants' Invention.....	19
VIII.	Clarification With Respect To Claim 61.....	19
IX.	Conclusion.....	19

I. Introduction

Throughout the prosecution of the present application, Appellants have steadfastly maintained that no prima facie case of obviousness has been established for the claims on appeal, as the Examiner has impermissibly used hindsight in picking and choosing only selected teachings from the prior art references in an attempt to reconstruct Appellants' claimed invention. The Examiner's Answer only serves to make this point even more evident.

The Examiner has now (for the first time)<sup>1</sup> taken a position about the configuration that one of ordinary skill in the art purportedly would have been led to by following the teachings of Zarrow and Yanai. In doing so, the Examiner has made modifications that are unsupported by any motivation in the prior art, and has ignored teachings in the prior art which teach away from the Examiner's configuration. This is simply improper.

The Examiner's Answer does not remedy the fatal deficiencies in the prior art rejections on appeal, but only serves to highlight the fact that hindsight has improperly been used in rejecting the claims on appeal, and that no prima facie case of obviousness has been established.

---

<sup>1</sup>The Answer (pg. 20) asserts that Appellants had argued that the Examiner must explain what type of system one of ordinary skill in the art would have been led to based upon the teachings of the prior art in a diagram or schematic format to set forth a prima facie case of obviousness. That is incorrect. All Appellants have ever asked for throughout the prosecution of the present application was some explanation of the system that the Examiner believed one of ordinary skill in the art would have been led to based upon the teachings of the prior art, whether that explanation was provided schematically, orally or textually.

II. The Answer Mischaracterizes Appellants' Argument Concerning  
The Nature Of The System That One Skilled In The Art Would Have Been  
Led To Following The Teachings Of Zarrow and Yanai

The Examiner asserts that Appellants have tried to bodily incorporate the features of Yanai into Zarrow, and as a result have argued that the resulting system would be one wherein mirroring communication is performed both by the host devices over a network cloud, and by the storage systems over a dedicated link. (Answer, page 17). This is a mischaracterization of Appellants' position.

In the Appeal Brief, Appellants described (both graphically and textually) the system that it is believed that one of ordinary skill in the art would have arrived at following the teachings of Zarrow and Yanai. Appellants indicated that while *other* types of communication between the host computers would continue over the network, mirroring communication would be implemented directly by the storage systems over a dedicated link extending therebetween as taught by Yanai.<sup>2</sup> (Brief, pages 13-15). Thus, contrary to the Examiner's mischaracterization, Appellants have not attempted to bodily incorporate the features of Yanai into Zarrow, and have not asserted that one of ordinary skill in the art would have been motivated to implement a system wherein mirroring communication is performed both by the hosts over a network and by the storage devices via a dedicated link.

---

<sup>2</sup> As discussed in the section immediately below, one of ordinary skill in the art clearly would not have been led to eliminate all network communication between the host devices of Zarrow as asserted by the Examiner, as one of ordinary skill in the art would have appreciated, both from the express teachings of Zarrow and otherwise, that there are numerous reasons why the host computers in Zarrow would be connected via a network separate and apart from any mirroring application.

III. One Of Ordinary Skill In The Art Following The Teachings Of Zarrow And Yanai Would Have Been Led To A System Employing A Dedicated High Speed Point-To-Point Communication Link Between The Storage Systems As Explained In Appellants' Brief, And The Examiner's Purported Justification For Arguing To The Contrary Ignores Teachings Of Zarrow, Yanai and Ohran

---

A. Zarrow

Zarrow is directed to a system for enabling communication with SCSI devices over a network, including a wide area network (WAN) such as the Internet. (see e.g., col. 1, lines 4-8 and 36 and col. 2, line 51). Zarrow specifically teaches that it had been difficult to place SCSI devices on a network because SCSI connections generally require relatively short cables. (col. 1, lines 18-24). Thus, Zarrow teaches a technique wherein computers (10, 12 in Fig. 1) that are attached to a network (14) can access not only locally attached SCSI devices, but also remote SCSI devices through another host computer. This access is implemented by a computer (e.g., computer 10) creating a SCSI command locally, and then packetizing it and transferring it over the network 14 to a remote computer (e.g., computer 12) which can then issue the SCSI command to its locally attached device (e.g., storage device 18). (col. 5, lines 60-64).

While Zarrow teaches that one use for his invention is to perform mirroring, Zarrow specifically teaches that his invention is not limited in this respect, as computers may use the Zarrow technique to access remote SCSI devices for numerous other reasons. (col. 5, lines 55-64).

As should be appreciated from the foregoing, Zarrow does not describe a system wherein a network connection is created between two computers to facilitate mirroring. Rather, Zarrow describes a system that enables computers that are already interconnected by a WAN (such as

the Internet) to access not only locally attached SCSI devices, but also remote SCSI devices attached to other computers on the network.

B. Yanai

Yanai teaches a mirroring system that removes the burden that exists on the host computers in a host-based mirroring system by placing intelligence in the storage systems themselves to directly control mirroring communication between them. (see Abstract). Using the technique of Yanai, data written by a host 12 to a primary data storage system 14 is automatically mirrored by the storage system 14, over a dedicated communication link 40, to a secondary data storage system 46. The secondary data storage system 46 has a set of secondary storage volumes 50b which are dedicated exclusively to mirroring the information stored to primary storage volumes 22a in the primary data storage system 14. Thus, any locally attached host computer 52 has access to only a different set of primary storage volumes 50a, as the secondary volumes 50b are dedicated to mirroring data received over the communication link 40 from the primary data storage system 14. (see e.g., col. 5, lines 11-30).

Yanai specifically teaches that the communication link 40 between the storage systems be a dedicated high speed point-to-point communication link (col. 2, line 55; col. 4, lines 54-62). Quite simply, there is no teaching or suggestion in Yanai that any other type of link be employed. Furthermore, as discussed below, one of ordinary skill in the art would not have been led to employ anything other than a dedicated link between the storage systems based upon the teachings of the prior art.

C. U.S. Patent No. 5,835,953 (Ohran)<sup>3</sup>

Ohran is directed to a back up system for mass storage devices, and although not applied in rejecting Appellants' claims, is relevant for what it teaches regarding the understanding in the art concerning the need for a dedicated communication link in a remote mirroring system such as that described in Yanai. Specifically, Ohran refers to such a remote mirroring facility as a "disk mirroring" system (see e.g., col. 3, line 54-col. 4, line 52), and specifically supports Appellants' position that one of ordinary skill in the art would have understood from Yanai that the disclosed remote mirroring facility should employ a dedicated communication link:

Since a remote disk mirror typically *requires a dedicated communication link*, the back up system must be sufficiently fast to handle communications from a plurality of dedicated communication lines. (col. 4, lines 62-65).

This disclosure in Ohran specifically teaches away from the embodiment of the present invention wherein a network connection is provided between the storage systems.

D. The Examiner Has Improperly Picked Only Selected Teachings Of Zarrow That Purportedly Support The Rejection, While Ignoring Other Teachings That Teach Away From The Configuration That The Examiner Alleges One Of Skill In The Art Would Have Been Led To Following The Combined Teachings of Zarrow And Yanai

Between pages 21 and 22 of the Answer, the Examiner provides a Figure 2 that purports to show the system configuration that one of ordinary skill in the art would have been led to following the teachings of Zarrow and Yanai. The Examiner asserts that one of skill in the art

---

<sup>3</sup> Ohran is of record in the present application, but was erroneously omitted from the listing of prior art in Section 9 of the Answer (page 3). In this respect, Applicants note that the listing of the prior art is incomplete, and fails to list



would have been led to remove the network connection between the host computers 10 and 12 (Fig. 1) of Zarrow and to directly connect the SCSI storage devices 16 and 18 to the network 14. In addition to ignoring specific teachings of Yanai and Ohran as discussed below, this assertion also ignores specific teachings in Zarrow, and it is respectfully asserted that it demonstrates the hindsight nature of the rejection, as one of ordinary skill in the art clearly would not have been led to such a configuration.

One of ordinary skill in the art would understand that computers are coupled to wide area networks for numerous reasons (e.g., to provide email services, Internet access, access to network file servers, etc.). Zarrow does not teach that the only purpose for connecting the host computers 10, 12 to the network 14 is to enable mirroring communication. In fact, Zarrow teaches just the opposite – he makes clear that there are other reasons why it may be desirable for a host computer to access a remote SCSI device over a network. (col. 5, lines 55-64).

Zarrow specifically teaches that prior to the development of his technique, “placing an SCSI device on a network has been difficult”. (col. 1, lines 22-23). Contrary to this teaching, the Examiner asserts that one of ordinary skill in the art would have been led to remove the network connection between the hosts and to attach the storage devices directly to the network. Significantly, the only purported justification for this is found in Yanai, which does not teach directly attaching storage devices to a network.

In view of the foregoing, the Examiner’s assertions that one of ordinary skill in the art would have been led to (1) directly attach storage devices to a network and (2) eliminate the network connection between the hosts both ignore specific teachings in Zarrow to the contrary.

E.     The Examiner Has Picked Only Selected Teachings From Yanai  
That Purportedly Support The Rejection While Ignoring Disclosure  
In Yanai (And Ohran) That Teaches Away From The Claimed Invention

Yanai is the only prior art reference relied upon for teaching a mirroring scheme that does not pass through the host computers. Thus, if one of ordinary skill in the art were motivated, as the Examiner asserts, to eliminate the host computers from the mirroring process of Zarrow, that skilled artisan would have necessarily looked to the teachings of Yanai for guidance on how this result could be achieved.

When the teachings of Yanai are consulted, the skilled artisan is taught that the way to achieve mirroring directly between two storage systems is via a dedicated high speed point-to-point communication link. (col. 2, line 55; col. 4, lines 54-62). The Examiner appears to justify ignoring this teaching because Yanai does not specifically explain all of the reasons *why* he teaches the use of a dedicated communication link as the transmission medium between the storage systems. However, as discussed further below, many of these reasons would have been immediately apparent to those of skill in the art, as demonstrated by the above-quoted portion of Ohran. Furthermore, there can be no doubt that the clear and unambiguous teaching of Yanai is to employ a dedicated communication link – this teaching cannot properly be ignored.

It is respectfully asserted that if one of ordinary skill in the art were motivated by Yanai to modify the system of Zarrow as alleged by the Examiner, the skilled artisan would have followed the teachings of Yanai and employed a system wherein the storage systems are connected via a dedicated communication link, as described in Section VIII(1)(C) of Appellants' main Brief.

Significantly, the Examiner does not genuinely dispute that Yanai teaches only the use of a dedicated link as the communication medium between the storage systems. In this respect, the Examiner only half-heartedly points to the boilerplate clause at the end of Yanai<sup>4</sup> and suggests that this teaches one of ordinary skill in the art that the communication medium between the storage systems need not be a direct communication link. (Answer, page 22). Of course, such a boilerplate clause teaches absolutely nothing with respect to the nature of the communication medium between the storage systems. If anything, this weak attempt to purportedly find some support in Yanai for not employing a dedicated communication link merely demonstrates the manner in which hindsight has been employed in rejecting Appellants' claims.

In response to Appellants' argument that the Examiner has impermissibly ignored the teachings of Yanai to employ a dedicated communication link, the Examiner disagrees, and appears to assert that it is Appellants' burden to provide evidence that a dedicated link is "required" in Yanai's system in the absence of any express teaching in Yanai that such a link is "absolutely necessary". (Answer, page 22). The justification that the Examiner has employed for picking and choosing only portions of the references that are helpful in rejecting Appellants' claims is clearly improper, as the Examiner is not empowered to ignore portions of Yanai that teach away from the present invention if Yanai doesn't disclose that they are "absolutely necessary". The Examiner's uneven treatment of the various teachings in Yanai, (i.e., giving great weight to anything helpful to the rejection and simply disregarding portions of Yanai that teach away from the rejection) is clearly improper, as it does not consider Yanai in its entirety for

---

<sup>4</sup> This clause merely states that some modifications may be within the scope of Yanai's invention, which is limited only by his claims.

the purpose of determining what it fairly suggests. (See e.g., Bausch & Lomb v. Barnes-Hind/Hydrocurve, 230 USPQ 416, 419 (Fed. Cir. 1986) and other cases cited in Appellants' Brief at pages 18-19).

The Examiner's Answer asserts that one of ordinary skill in the art would have known that Yanai was teaching only to connect the storage systems together, and that numerous other types of communication links could be employed in addition to a point-to-point communication link. (Answer, page 22). This assertion is entirely unsupported in Yanai or elsewhere in the prior art of record, and cannot substitute for a finding of motivation in the prior art to modify the teachings of Yanai. See e.g., In re Oetiker 977 F.2d 1443, 1447 (Fed.Cir. 1992) ("There must be some reason, suggestion or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicant's invention itself."); In re Fritch 23 USPQ 2d 1780, 1783-1784 (Fed. Cir. 1992) ("The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification."). As discussed below, one of ordinary skill in the art would have understood exactly the opposite to be true, and would have appreciated why Yanai specifically taught the use of a dedicated communication link.

The Examiner disregards Appellants' argument that one skilled in the art would have understood Yanai to teach the use of a dedicated communication link, asserting that there is no evidence in the record that Yanai required such a link (Answer, page 22). Appellants' response is two-fold. First, it is respectfully asserted that it is the Examiner's burden to establish some motivation for modifying the point-to-point communication link taught by Yanai. In view of the

total absence of any support in the record for the Examiner's assertion that one of ordinary skill in the art would have understood Yanai to suggest that other types of communication links could be employed, the burden has not shifted to Appellants to rebut this unsupported assertion, and the rejection is improper. Second, even if the burden had somehow been shifted, Ohran provides precisely the type of evidence that the Examiner alleges is lacking – Ohran demonstrates that those skilled in the art believed that remote disk mirroring “requires a dedicated communication link.” (Ohran, col. 4, lines 62-65).

Despite Appellants' repeated assertions that the rejection would only be proper if the Examiner pointed to some motivation for further modifying the Zarrow/Yanai system to replace the dedicated point-to-point communication link between the storage systems that results from following the teachings of Yanai, the Examiner has been unable to cite any reference or other evidence to provide such a motivation. Instead, the Answer responds in two ways.

First, the Examiner highlights the teachings of Zarrow and Yanai that have been picked and chosen to support the rejection – noting that Zarrow teaches mirroring over a network (ignoring Zarrow's teaching that this be performed by the hosts) and Yanai teaches direct mirroring between the storage systems (ignoring Yanai's teaching that this be performed over a dedicated link). The Examiner then asserts that it is unnecessary to provide motivation for replacing the direct point-to-point communication link taught by Yanai because the Examiner has not relied upon Yanai for teaching that feature. (Answer, pages 23-24). As indicated in Appellants' main Brief, this assertion demonstrates that hindsight has impermissibly been employed in establishing the rejection, as the Examiner is not permitted to ignore portions of

Yanai that teach away from the invention by simply choosing to not rely upon them. (See e.g., MPEP §2142.02 and caselaw cited at pages 18-19 of Appellants' Brief).

Second, the Examiner asserts that no motivation need be provided for replacing the dedicated link of Yanai because Yanai's teachings are being added to Zarrow's, which is a system wherein mirroring communication is performed over a network. The fallacy in this assertion is made clear by the Examiner's own Figure 2 (between pages 21 and 22 of the Answer). As shown therein, the system the Examiner asserts would result from the combined teachings of Zarrow and Yanai is identical to the Examiner's representation of Yanai, with the one exception that Yanai's dedicated link has been replaced by a network. It is respectfully asserted that this modification is totally unsupported, as there is nothing in the prior art of record to motivate one of skill in the art to make such a modification. The Examiner's assertion that such a motivation need not be provided because Zarrow was employed as the primary reference is unavailing. The complete teachings of both references must be considered regardless of which reference is characterized as the "primary" reference.

No matter which reference is used as the starting point, one of ordinary skill in the art following the full teachings of both references would not have been led to a system wherein mirroring communication is performed between two storage systems directly connected via a network. As discussed above, if Zarrow is treated as the primary reference, then one of ordinary skill in the art might have been motivated to employ Yanai's technique for performing non-host-based mirroring, and would have employed a dedicated link between the storage systems for such a purpose. Conversely, if Yanai were employed as the primary reference, one skilled in the art might have been motivated by Zarrow to ensure that the host computers are connected via a

network so that remote devices could be accessed for the other types of non-mirroring applications referenced in Zarrow. In either case, one of ordinary skill in the art would have been led to a system having the configuration shown at page 14 of Appellants' Brief, which would not have rendered obvious any of Appellants' claims.

IV. The Answer Ignores Evidence of Record Demonstrating Additional Factors That Teach Away From The Present Invention, While Conversely Relying Upon Numerous Unsupported Assertions About What One Of Ordinary Skill In The Art Would Have Believed

A. The Answer Disregards The Teaching In Ohran That A Remote Mirroring Facility Such As That Shown In Yanai Requires A Dedicated Communication Link

As discussed above, Ohran specifically supports Appellants' argument that one of ordinary skill in the art would have understood from Yanai that the disclosed system should employ a dedicated communication link:

Since a remote disk mirror typically requires a dedicated communication link, the back up system must be sufficiently fast to handle communications from a plurality of dedicated communication lines. (col. 4, lines 62-65).

In the main brief, Appellants pointed to specific teachings in both Yanai and Ohran as evidence that one of ordinary skill in the art would have understood that remote mirroring systems require a high speed communication link. (Brief, page 20). Curiously, the Examiner's response is that "Applicant has provided no evidence of such a claim." (Answer, page 23). It is unclear why the Examiner believes that the teachings of Ohran and Yanai can be disregarded in this respect, as a proper analysis under §103 must take into account all of the teachings of the

prior art, including those that teach away from the present invention. (see Appellants' Brief, pages 18-19).

The Answer further responds that a network is considered to be a high speed communication link. (Answer, page 23). In addition to being entirely unsupported<sup>5</sup>, this assertion also fails to credit the explicit teachings in both Yanai and Ohran that a remote mirroring system should employ a "dedicated" or "point-to-point" communication link. (Ohran, col. 4, line 63 and Yanai, col. 4, line 56).

B. The Evidence of Record Establishes That One Of Ordinary Skill In The Art Would Not Have Been Led To Directly Attach A Storage System To A Network Based Upon The Teachings Of Zarrow, Yanai Or Otherwise

As discussed above, the Examiner's assertion that one of ordinary skill in the art would have been motivated to directly attach the storage devices of Zarrow to the network is directly contradicted by the teachings of Zarrow. (see e.g., col. 1, lines 22-24). Furthermore, in the main brief, Appellants pointed out that there was no teaching in Zarrow that the storage devices included therein have the intelligence necessary to support communication over the wide area network 14 of Zarrow. The Examiner again seeks to improperly shift the burden by dismissing this argument because "Applicant has not shown evidence of such." (Answer, page 23). Furthermore, the Examiner also asserts that a system resulting from the combined teachings of Zarrow and Yanai "would inherently require such a feature." (Answer, page 23). It is

---

<sup>5</sup> One of ordinary skill in the art would appreciate that for a communication medium having a particular bandwidth, a dedicated communication link will provide higher performance than a shared resource such as a network.



respectfully asserted that this analysis is not only incorrect,<sup>6</sup> but again demonstrates that hindsight has improperly been used, as the Examiner appears to argue that such a feature must necessarily be present or the invention could not be reconstructed. This is of course improper, as it is not appropriate to arrive at a configuration unless it is suggested by the prior art.

Furthermore, neither Zarrow nor Yanai teaches a storage system having intelligence for limiting access to particular volumes of storage based upon the identify of a device seeking such access. In fact, in Zarrow and Yanai, such intelligence is unnecessary, as in each system the storage device is only accessed by a directly-connected host, such that the act of forming the physical connection over a dedicated line establishes the trusted nature of the host. It should be appreciated that this aspect of the Yanai system also applies to the secondary data storage system that performs the mirroring operation, as only the primary storage system will be attached thereto over the dedicated communication link 40, and will, by virtue of this physical connection, be granted access to the secondary storage volumes 50b.

In the system that the Examiner alleges that one of ordinary skill in the art would have been led to (see Figure 2 between pages 21 and 22 of the Answer), the storage devices are directly attached to a network, which presumably includes numerous other devices. One of ordinary of skill in the art would never have been motivated by the teachings of the prior art of record to directly attach the Zarrow or Yanai storage devices to a network, as the storage devices would be unprotected and could be accessed by numerous untrusted hosts on the network that could view potentially sensitive data, or erase or corrupt data by overwriting it.

---

<sup>6</sup> The system shown at page 14 of Appellants' Brief would result from following the teachings of Zarrow and Yanai and would not require that the storage systems be directly connected to the network.

V. The Rejection is Based Upon The Wrong Legal Standard And Employs Hindsight In The Absence of Any Motivation In The Art

The Examiner cites a 30-year old CCPA decision that purportedly indicates that it is not improper to reconstruct an invention in hindsight so long as the reconstruction only uses knowledge that was within the level of skill in the art. (Answer, pages 24-25). To the extent the Examiner believes that a rejection under §103 can be based on hindsight without finding a proper motivation to make any necessary modification in the prior art of record, she is incorrect. See e.g., In re Oetiker 977 F.2d 1443, 1447 (Fed.Cir. 1992) (“There must be some reason, suggestion or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicant’s invention itself.”); In re Fritch 23 USPQ 2d 1780, 1783-1784 (Fed. Cir. 1992) (“The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.”). As discussed above, there is clearly no teaching or suggestion in the prior art of record to modify the direct point-to-point communication link taught by Yanai for performing mirroring between two storage systems.

VI. The Rejection Of The Claims Under Issue 3 Demonstrates The Further Use Of Hindsight, As There Is Absolutely No Motivation In The Prior Art Of Record For Making The Combination

The claims rejected in Issue 3 are directed to a concept wherein a network cloud is used as a communication medium between two storage systems, and a plurality of communication paths is provided between at least one of the storage systems and the network cloud to allow

information to be transferred through the network cloud in parallel. This feature is not taught or suggested by any of the prior art references of record.

In addition to the manner in which only selected teachings from Zarrow and Yanai have been “picked” and “chosen” to purportedly support the rejection of the independent claims, the Examiner similarly points to Vishlitzky as teaching the use of multiple parallel dedicated communication lines, and asserts that this provides a motivation for further modifying the system of Yanai and Zarrow to achieve the claimed invention. In response to Appellants’ assertion that the prior art of record provides no motivation for this further modification, the Examiner simply asserts “These enhancements provide the motivation for the desirability of this feature.”

(Answer, page 25). It is respectfully asserted that this further demonstrates that hindsight has improperly been employed, as the Examiner appears to be arguing that if features from a number of prior art references are selectively picked to reconstruct the invention, any desirable aspects of the various features in the references purportedly provide motivation for making the reconstructed combination. It is respectfully asserted that this analysis is improper.

The fact that one of ordinary skill in the art would understand that separate parallel *dedicated* paths provide performance improvements would teach absolutely nothing about the desirability of employing multiple paths into a network, as the network itself can conceptually be considered as a single communication medium. It was a contribution of Appellants to recognize that even when a network connection is employed between two storage systems, it may be desirable to employ multiple communication paths between one of the storage systems and the network. This feature is not taught or suggested by the prior art of record.

VII. The Rejection Of The Claims Under Issue 6 Demonstrates Yet Another Example Of The Examiner Improperly Ignoring Relevant Teachings Of The References In Reconstructing Appellants' Invention

---

The rejection under Issue 6 suffers from a similar flaw as the rejection under Issue 1, in that the Examiner simply ignores the teachings of Yanai to employ a dedicated point-to-point communication link between the storage systems, and provides no motivation for modifying that feature of the Yanai system. Once again, the Examiner asserts that it is unnecessary to provide a motivation for replacing the direct point-to-point communication link taught by Yanai, because that feature of Yanai "was not relied upon." (Answer, page 27). For the reasons stated above, this assertion demonstrates that hindsight has been improperly employed, and that the teachings of the prior art (including Yanai and Ohran) that a mirroring storage system should employ a dedicated high speed point-to-point communication link between the storage systems have been improperly ignored.

VIII. Clarification With Respect To Claim 61

In Section B of the Answer (see e.g., claim 4), the Examiner includes claim 61 in the list of rejected claims. It is respectfully pointed out that claim 61 has been canceled (see Appellants' Brief, page 1 and Section No. 3 of the Answer confirming the correctness of Appellants' status of the claims).

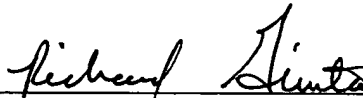
IX. Conclusion

For the reasons set forth in Appellants' Brief and for the foregoing reasons, the rejections of each of the claims was improper and should be reversed.

-20-

Respectfully submitted,

WILSON ET AL.

A handwritten signature in cursive script, appearing to read "Richard F. Giunta", is written over a horizontal line.

Richard F. Giunta  
Reg. No. 36,149  
Wolf, Greenfield & Sacks, P.C.  
600 Atlantic Avenue  
Boston, MA 02210  
(617) 720-3500

Attorneys for Appellants

ATTORNEY'S DOCKET NO. E00295.70021.US

Date: November 18, 2002